Quelle TECHNISCHER KUNDENDIENST

Technische Unterlage

Best.-Nr.:
102 290 4

UTS-Nr.:	999	QUELLE
Best.Nr.:	1022904/01	
Ger.Bez.:	UNIV.MINI-COMPO	

GKz:	G	GERAET
WGT:	650	MICRO-/MINI-ANLAGEN
KD-Sektor:	R	RUNDFUNK
BaumNr.:	00	KEIN DIAGNOSEBAUM VORHANDEN
Klassierung:	STK	STEREOKOMBINATION
IFW-FehlerGru.:	205	RDF.,VERST.,TB.,PHONO,CD,CB

Type/Privileg/Universum.Nr VTC-CD1062
Beschreibung
VK-Preis: 299.00

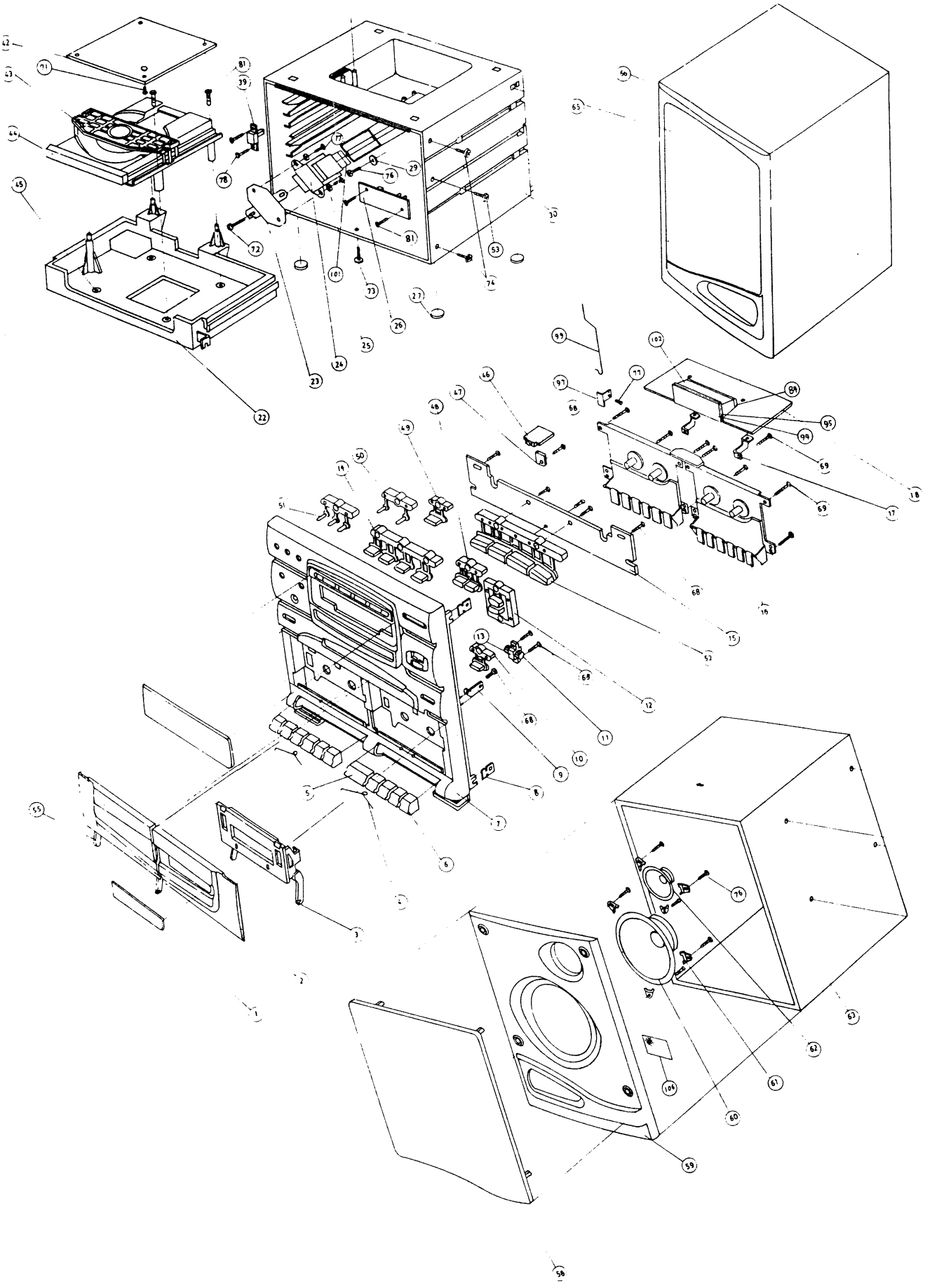
Serviceart:	01	QUELLE-TKD
Garantie fuer Kunden	06	Monate
Sondervereinbarungen:	0	SIEHE SERVICEART

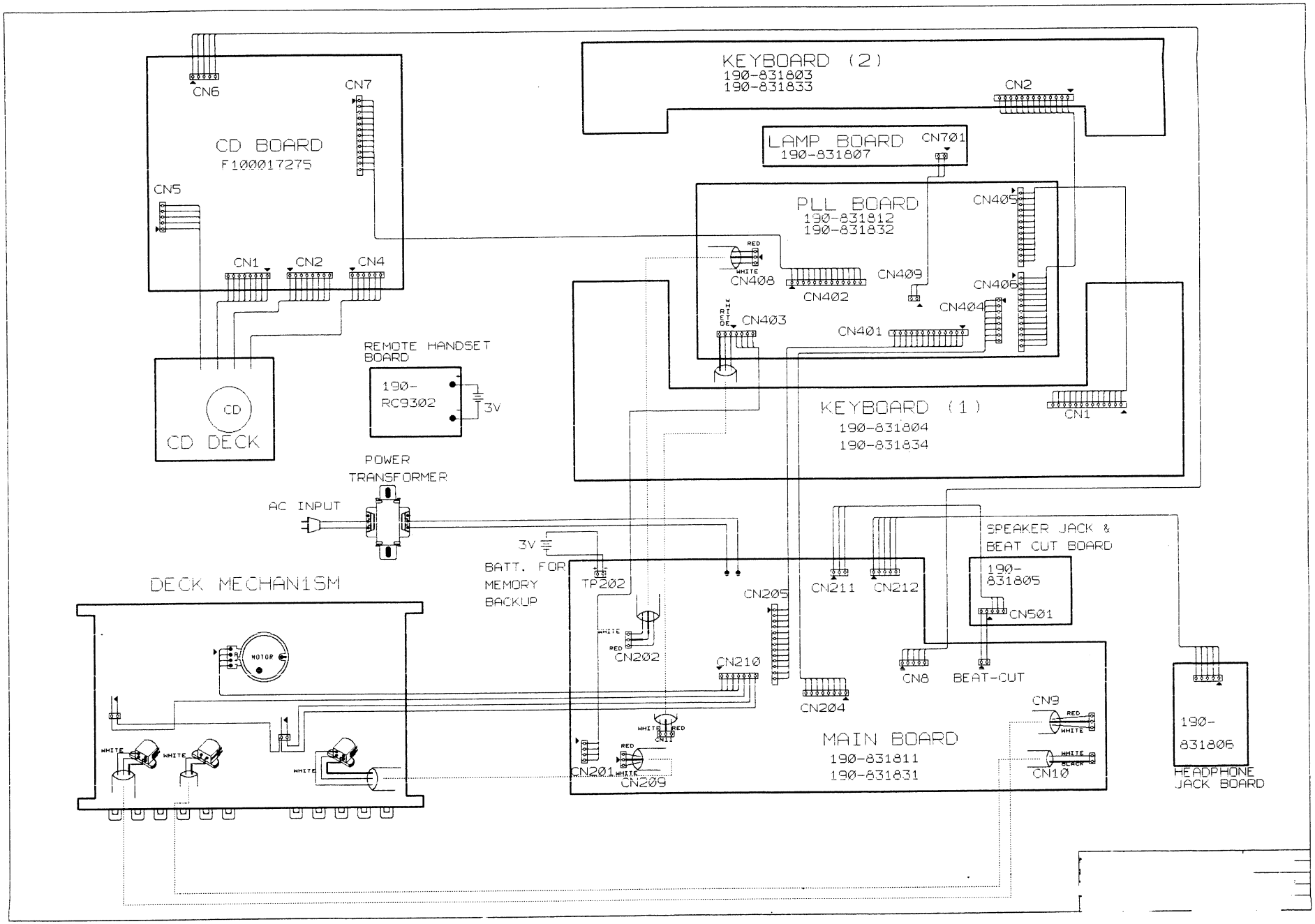
Garantiereparatur	9999999	QUELLE

KAT. 963 DATUM 06.03.96 SEITEN 20

Quelle Schickedanz AG & Co.
Kundendienstzentralleitung Duisburger Str. 57, 90451 Nürnberg
Bei allen Reparaturen sind die gültigen Sicherheitsvorschriften zu beachten!

Nachdruck nicht gestattet
Änderungen vorbehalten




KEYBOARD (2)
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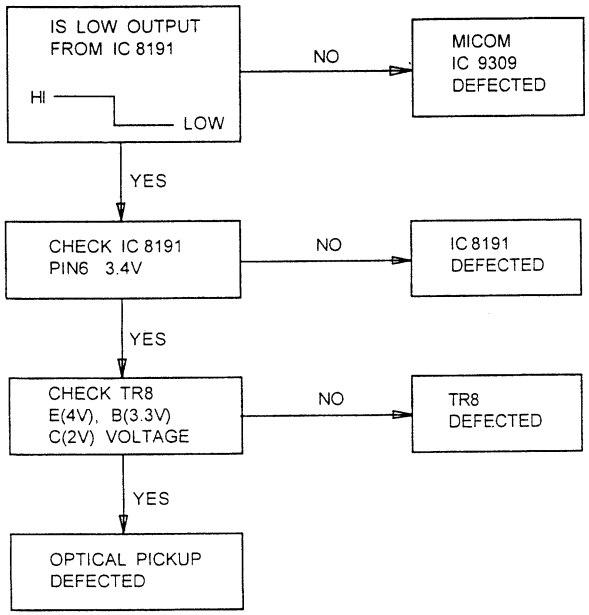
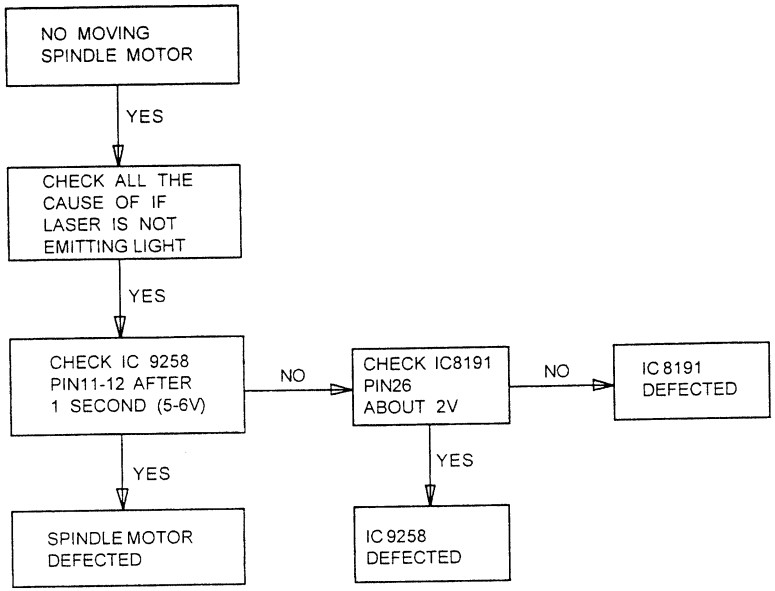
190-831833
CN2
CN6
CN7
CD BOARD
F100017275
CN5
CN1
CN2
CN4
LAMP BOARD
190-831807
CN701
PLL BOARD
190-831812
190-831832
CN405
CN408
CN409
CN402
CN406
CN404
CN403
CN401
KEYBOARD (1)
190-831804
190-831834
CN1
REMOTE HANDSET BOARD
190-
RC9302
3V
CD
CD DECK
POWER
TRANSFORMER
AC INPUT
3V
BATT. FOR
MEMORY
BACKUP
TP202
SPEAKER JACK &
BEAT CUT BOARD
190-
831805
CN501
CN211
CN212
CN205
CN202
CN210
CN8
BEAT-CUT
CN204
CN9
CN10
DECK MECHANISM
MOTOR
CN201
CN209
CN11
MAIN BOARD
190-831811
190-831831
190-
831806
HEADPHONE
JACK BOARD

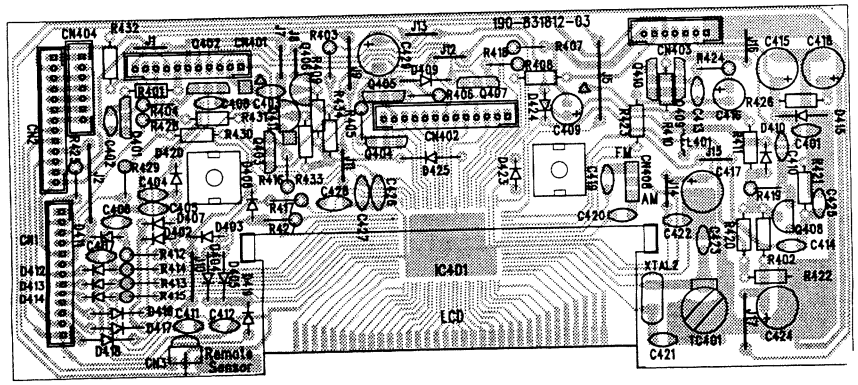
IF LASER IS NOT EMITTING LIGHT
(FOR PCB-15)

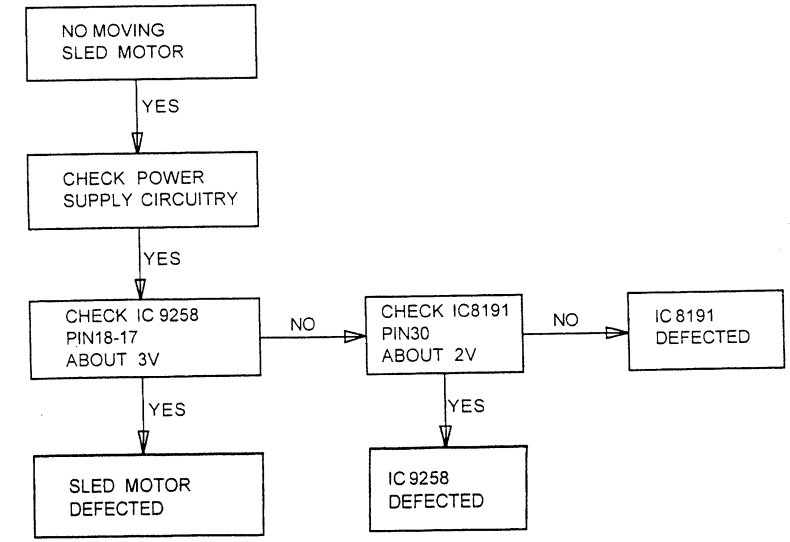


IF DISC IS NOT MOVING
(FOR PCB-15)

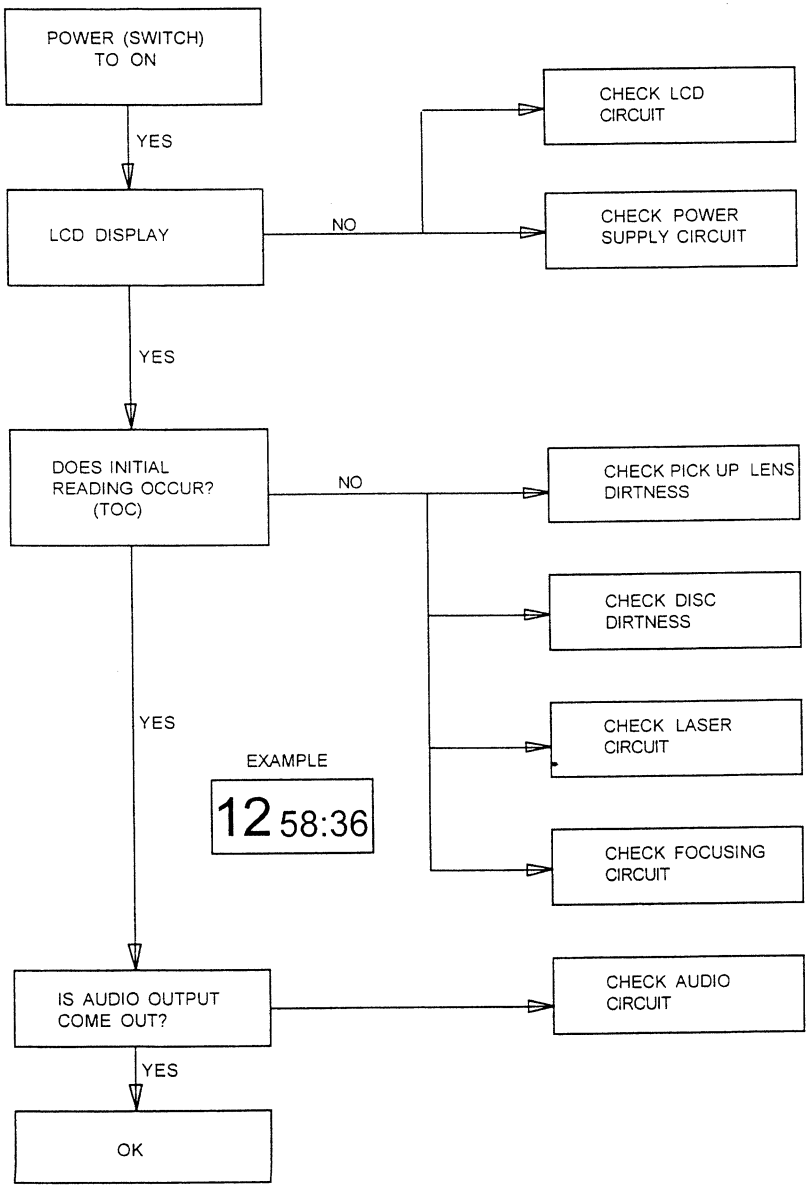


LCD-PLATINE

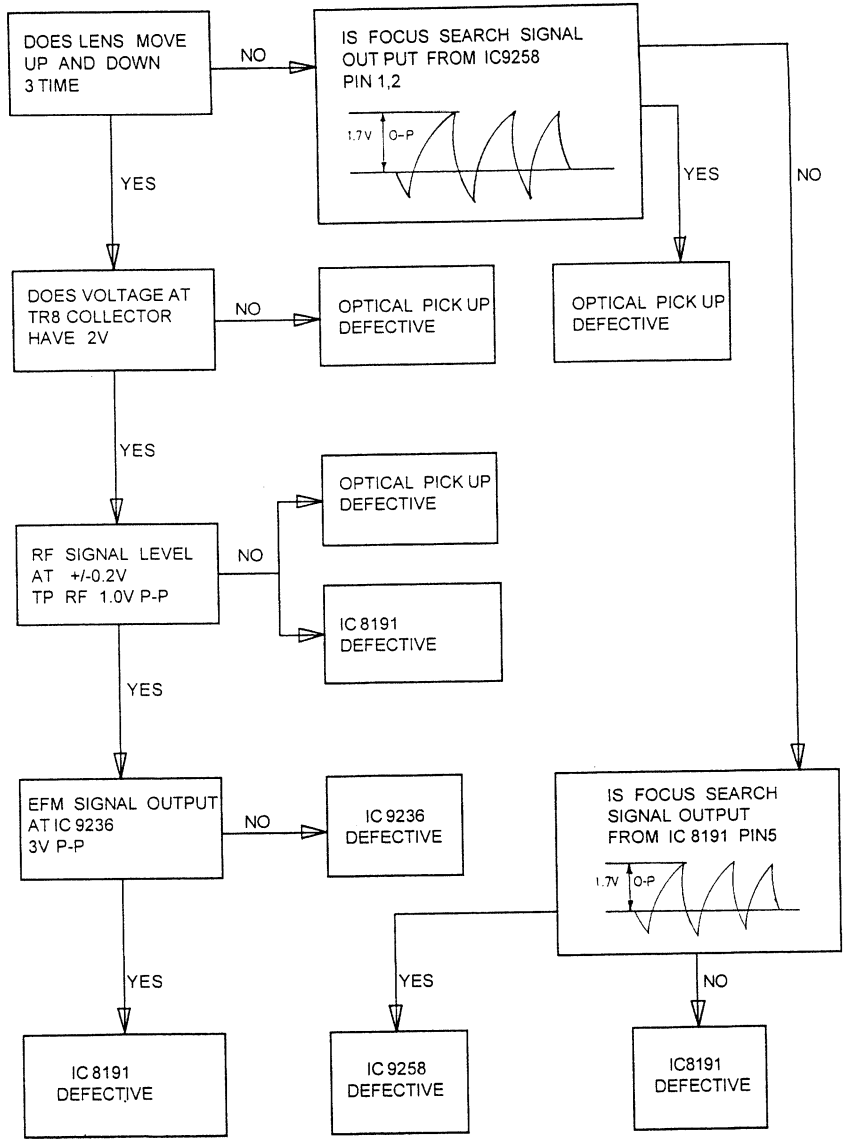




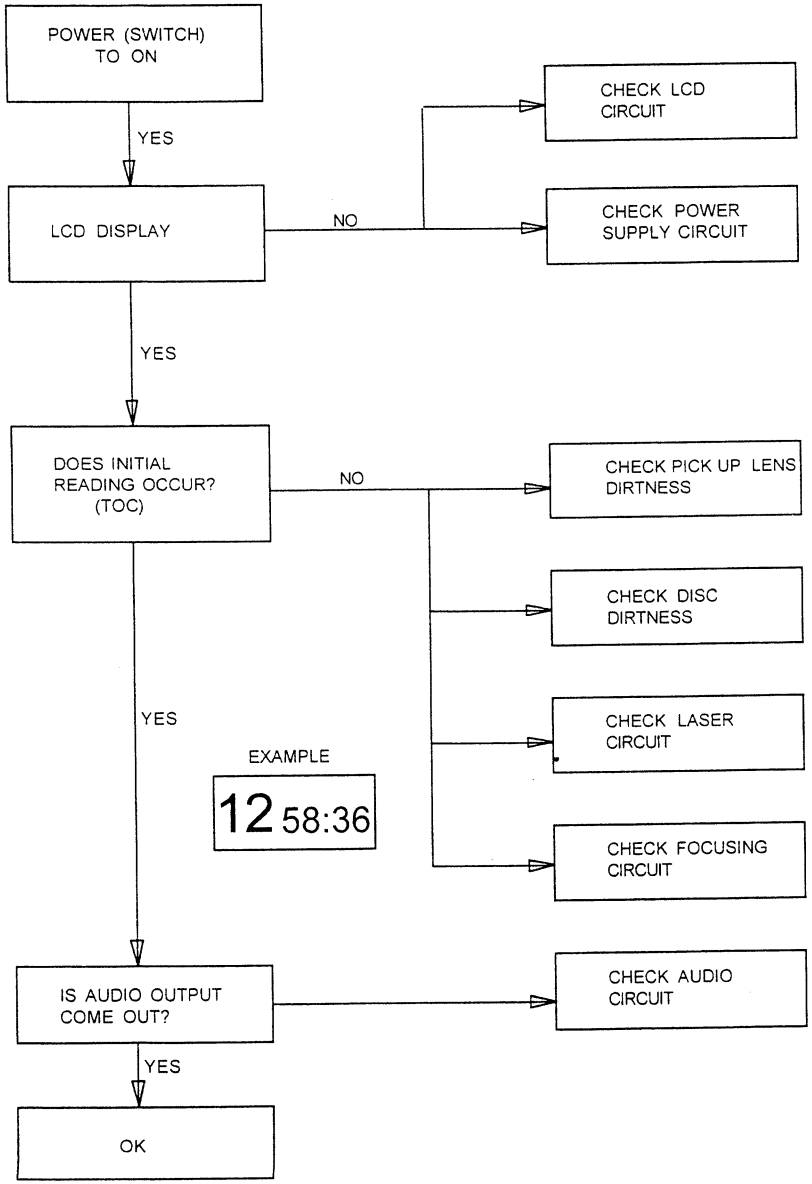
TROUBLE SHOOTING GUIDE (FOR CD PLAYER)
(FOR PCB-15)



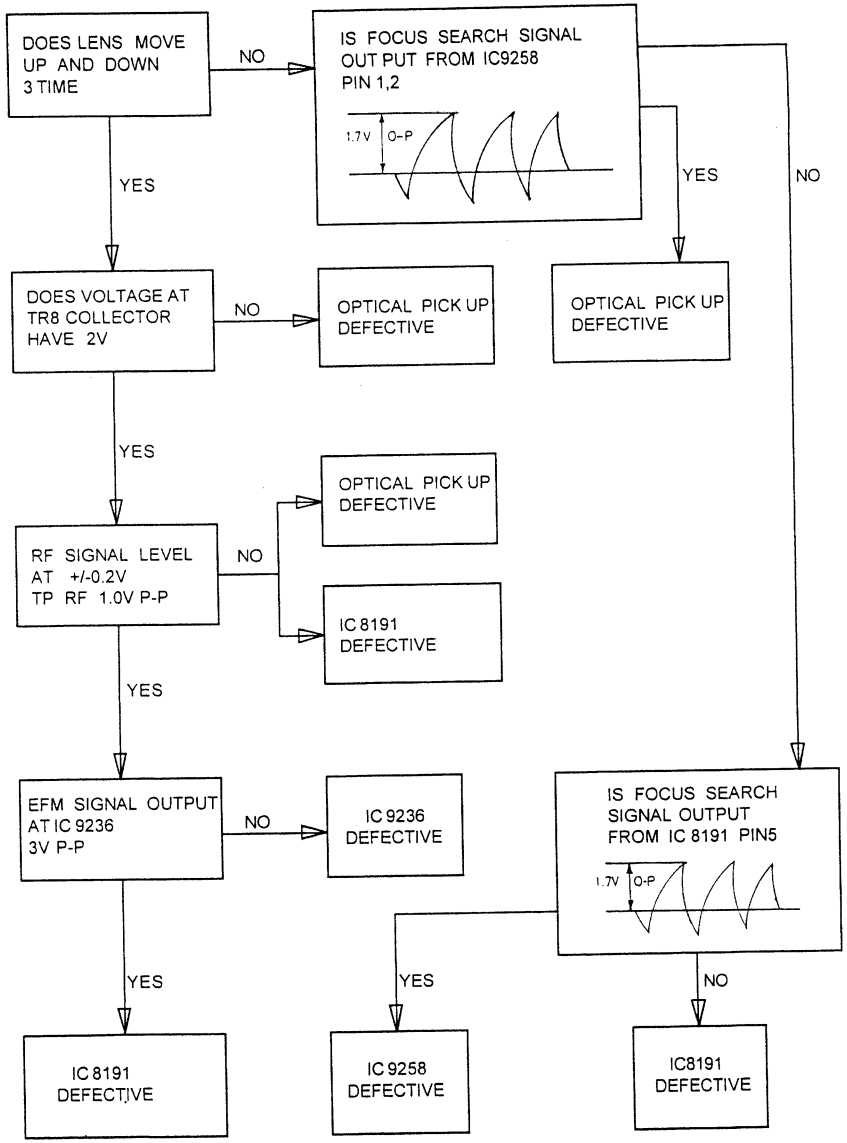
IF LASER IS EMITTING LIGHT
(FOR PCB-15)



TROUBLE SHOOTING GUIDE (FOR CD PLAYER)
(FOR PCB-15)

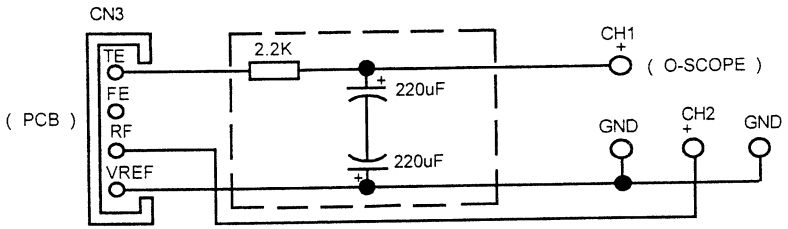


IF LASER IS EMITTING LIGHT
(FOR PCB-15)



CD ALIGNMENT
(FOR PCB-15)

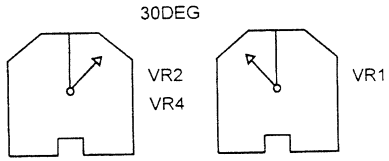
CONNECTION



* PROBE : 10 X 1.

(A) PRE ADJUSTMENT

1. Make VR2 (TB), VR4 (FEB) 30 Deg.

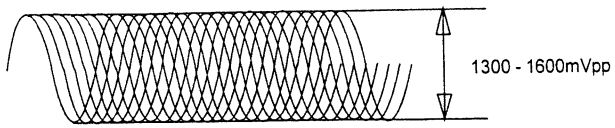


(B) TRACKING BALANCE

1. Select "CH1" of Scope as connection.
2. Voltage DIV : 2mV, Time DIV : 5ms.
3. Set the mode " GND" and make the level "0 mV".
4. Set the mode "DC".
5. Play the disc YEDA-18 or TCD 782.
6. Search the 1 st and last track continuosly.
7. Adjust VR2(TB) untill the level is 0 +-5mV during search.

(C) FOCUS ERROR BALANCE (RF LEVEL ADJUST)

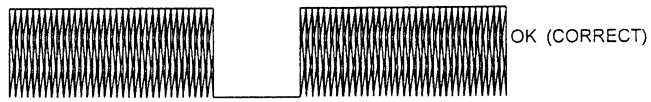
1. Select " CH2" of scope as connection.
2. Voltage DIV : 20mV, Time DIV : 0.2us.
3. Set the mode " AC".
4. Play TNO 10 of YEDS-18 or TCD 782.
5. Adjust VR4 (FEB) untill RF level is max.

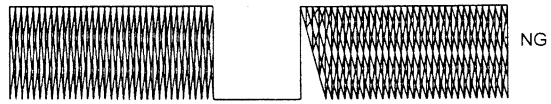


CD ALIGNMENT
(FOR PCB-15)

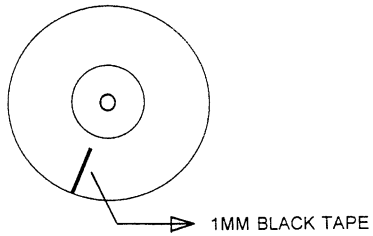
(D) FOCUS OFFSET

1. Select " CH2" of scope as connection.
2. Voltage DIV : 50mV , Time DIV : 2ms.
3. Set the mode " DC".
4. Play the cleanest track of test disc.
5. Adjust VR1 (FOF) untill getting the correct wave form.
6. Make the trigger sure till fixed wave form.

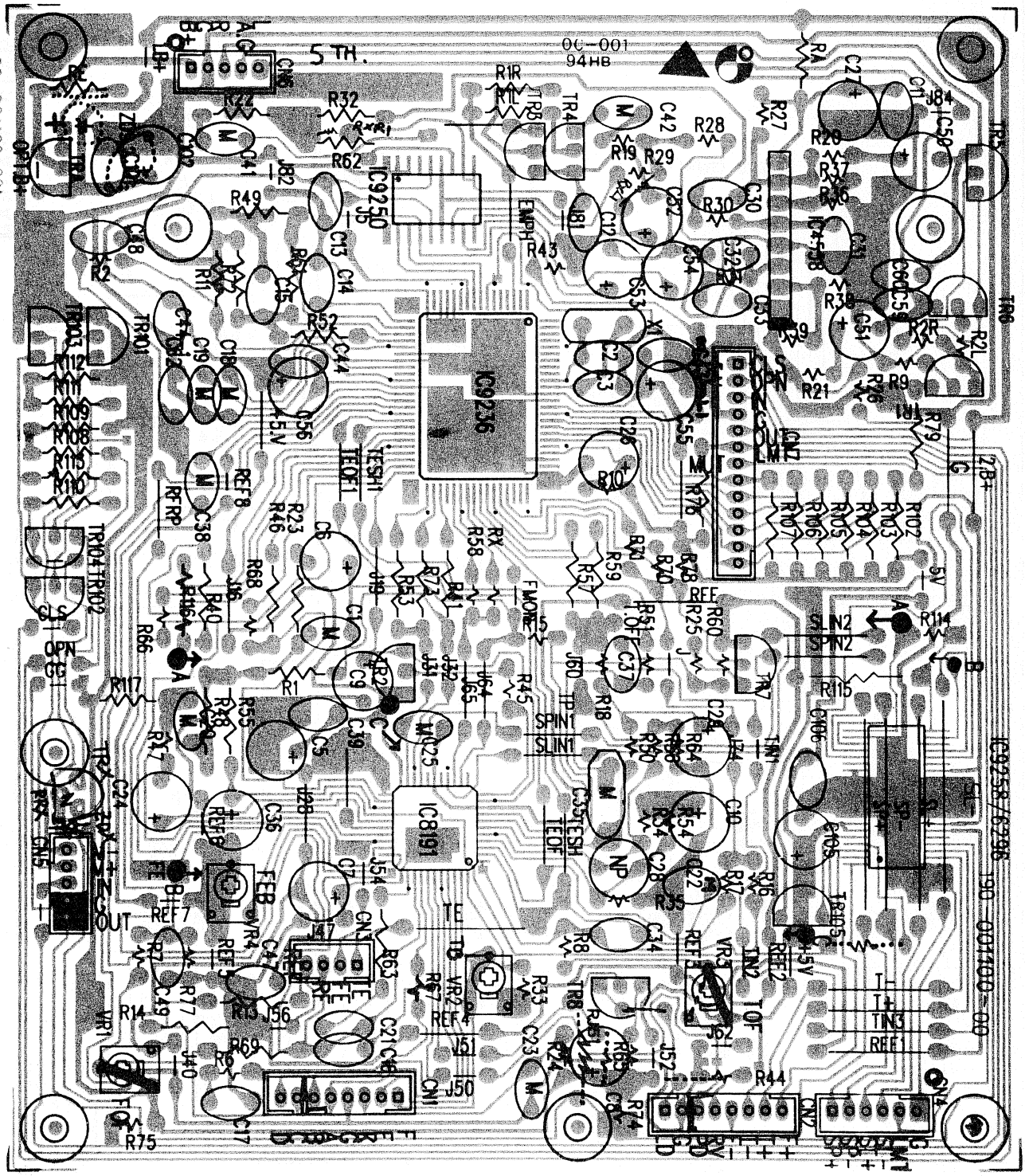




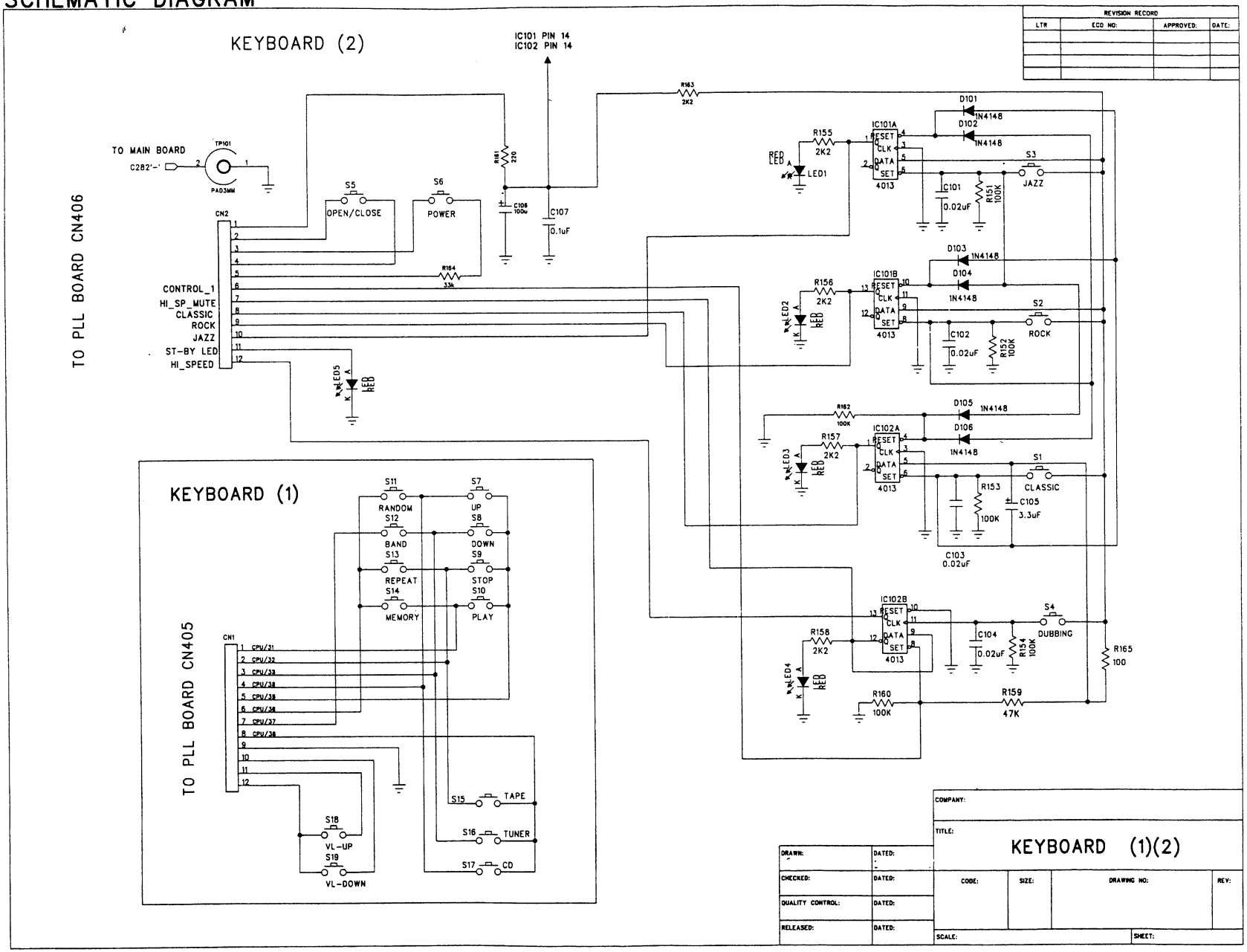
* TEST DISC



CD-PLATINE


IC9236
IC9250
IC8191
IC9258/6286
190-001100-00
5TH.
0C-001
94HB
OPN
CLS
SLN2
SPN2
SLN1
SPN1
FMORE
TEOF
FEOF
TESH
FEB
TE
FE
TNG
REF1
REF2
REF4
REF7
REF8
RFRP
RFCB
TRK
FOCUS
TRACKING
SLED
SPINDLE
LOADING
MOTOR
SENSOR
OUT
IN
2.8V
5V

SCHEMATIC DIAGRAM



REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

DRAWN:	DATED:
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

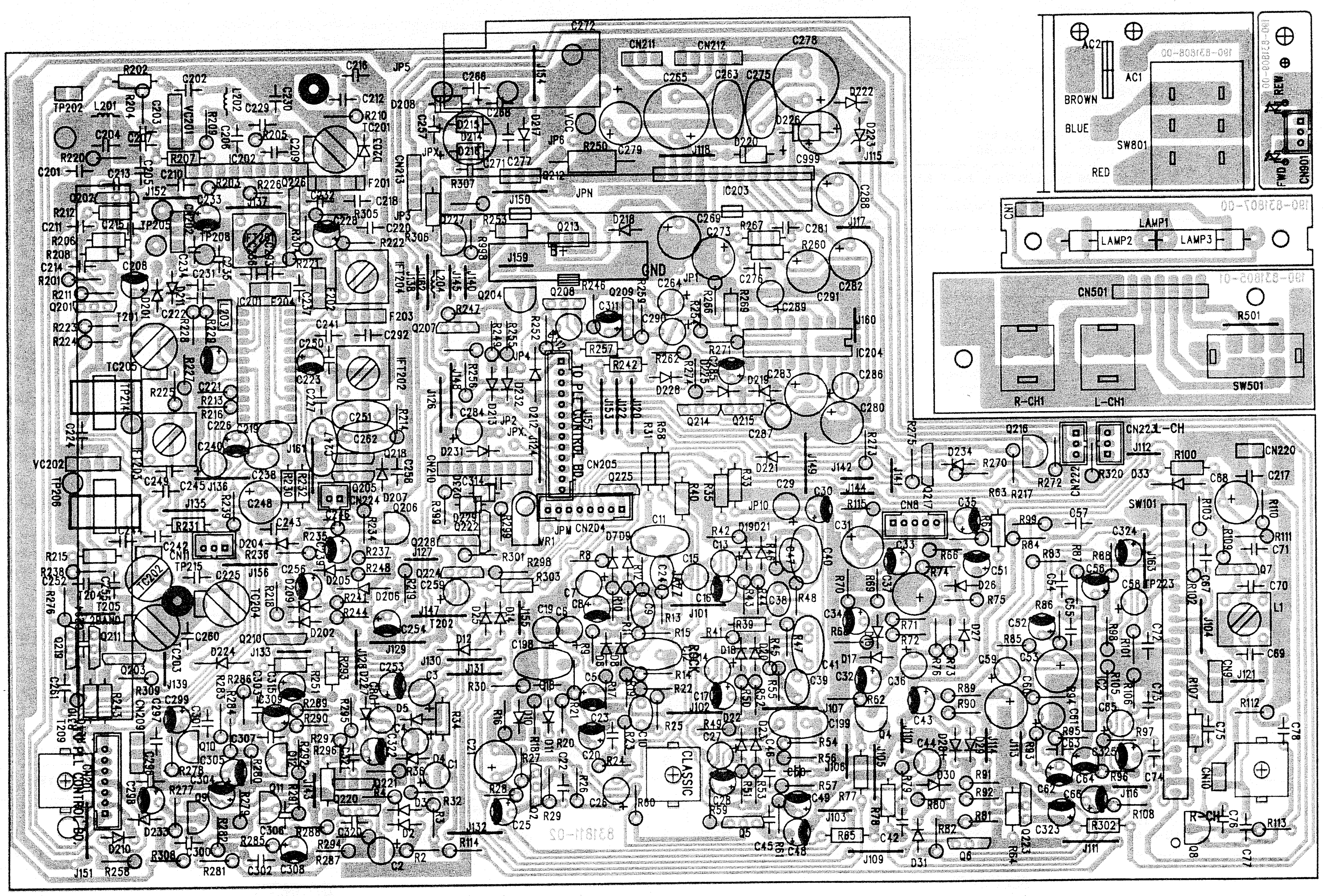
COMPANY:

TITLE: KEYBOARD (1)(2)

CODE:	SIZE:	DRAWING NO:	REV:

SCALE: SHEET:

HAUPTPLATINE



ALIGNMENT

3.	87.5MHz	SAME AS STEP 2	SAME AS STEP 2.	SAME AS STEP 1.	CHECK TO VOLTAGE AT C252 TO GND 1.1V +-0.15V	TUNE TO LOW END
4.	REPEAT STEP 2,3 TO GET THE BEST PERFORMANCE.					
5.	106.1 MHz	SAME AS STEP 2	SAME AS STEP 2.	SAME AS STEP 1.	ADJUST TC201 TO GET MAX. OUTPUT	PRESS BUTTON TO 106.1MHz
6.	90.1 MHz	SAME AS STEP 2	SAME AS STEP 2.	SAME AS STEP 1.	ADJUST L202 TO GET MAX. OUTPUT	PRESS BUTTON TO 90.1MHz
7.	REPEAT STEP 5,6 AND THEN STEP 5,6 TO GET THE BEST PERFORMANCE.					
8.	98.1MHz OR OTHERS	(1)OSCILLOSCOPE (2)FREQUENCY COUNTER	NO CHANNEL RECIVED.	SIGNAL ARE TAKEN OUT FROM F204 TO GND	CHECK FREQ TO HAVE 456KHz +-0.01	(1)BAND SW.AT FM STEREO POSITION

LW SECTION

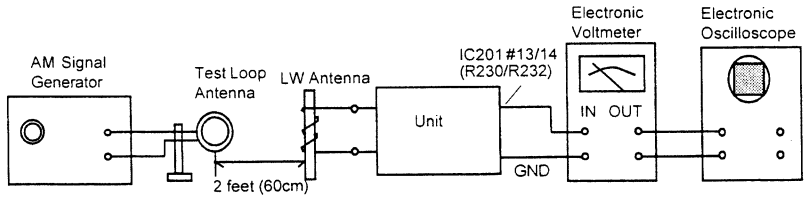


Figure 10 LW RF Adjustment Connection Diagram

STEP	ALIGNMENT FREQ	TEST EQUIPMENT	SIGNAL-IN	SIGNAL-OUT	ADJUST	REMARK
1.	285KHz	(1)LW SWEEP GEN WITH ANT (2)ALIGNMENT OSCILLOSCOPE (3)DVM	LET THE LW ANT COIL CLOSE TO LW ANTENNA	TAKE OUT THE SIGNAL FROM R230 OR R232	ADJUST TC202 TO HAVE 8V C252 TO GND	(1)BAND SW IN LW POSITION (2)VOL.CONTROL AT MIN POSITION (3)TUNE TO HIGH END.
2.	150KHz	SAME AS STEP 1.	SAME AS STEP 1.	SAME AS STEP 1.	CHECK VOLTAGE AT C252 TO GND 1V +-0.2V	PRESS BUTTON TO LOW END.
3.	REPEAT STEP 1,2 UNTIL NO TO GET THE BEST PREFORMANCE.					
4.	272KHz	SAME AS STEP 1.	SAME AS STEP 1.	SAME AS STEP 1.	ADJUST TC204 TO GET MAX. OUTPUT AT 272KHz	PRESS BUTTON TO 272KHz

ALIGNMENT

5.	164KHz	SAME AS STEP 1.	SAME AS STEP 1.	SAME AS STEP 1.	ADJUST LW ANT COIL TO GET MAX OUTPUT. AT 164KHg.	PRESS BUTTON
6.	PEPAT STEP 4,5 TO GET THE BEST PERFORMANE.					

TAPE DECK SECTION

STEP	ALIGNMENT FREQ	TEST EQUIPMENT	SIGNAL-IN	SIGNAL-OUT	ADJUST	REMARK
1.		(1)COUNTER	TEST TAPE STT-111N (OR MIT-111N) 3KHz	SPEAKER OUTPUT	ADJUST VR1 TO HAVE 3KHz +30/-5Hz AT SPEAKER OUTPUT.	(1)FUNCTION SW. INTAPE POSITION (2)VOL. ADJUSTED TO REF. OUTPUT

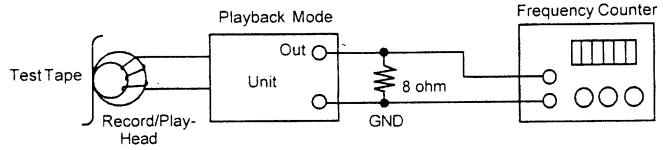


Figure 11 Motor Speed Adjustment Connection Diagram

2.		(1)DVM. (2)OSCILLOSCOPE.	TEST TSPE 8KHz .	SAME AS STEP 1.	ADJUST TAPE HEAD SCREW TO GET MAX..OUTPUT	SAME AS STEP 1.

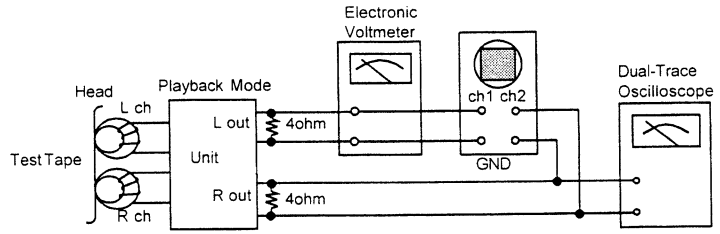


Figure 12 Azimuth Adjustment Connection Diagram

3.	REPEAT STEP 1,2 FOR TAPE DECK A & B (1 & 2) TO GET THE BEST PERFORMANCE.					
4.		(1)COUNTER (2)VTVM WITH X10 PROBE		BETWEEN C69 AND C78	ADJUST IFTI TO 80KHz FOR BEATCUT(1) CHECK 71-73KHz FOR BEAT CUT(2)	COUNTER CONNECT TO VTVM O/P

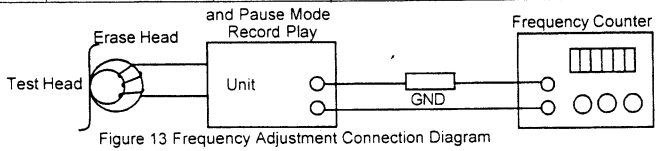


Figure 13 Frequency Adjustment Connection Diagram

ALIGNMENT

PLL SECTION

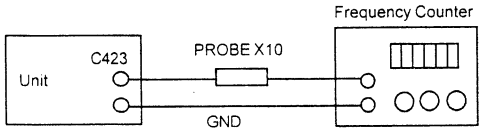


Figure 3 PLL Section Crystal 7.2MHz Adjustment Connection Diagram

STEP	ALIGNMENT FREQ	TEST EQUIPMENT	SIGNAL-IN	SIGNAL-OUT	ADJUST	REMARK
1.	7.2MHz	COUNTER WITH X10 PROBE		C423 TO GND	ADJUST TC401 TO 7.2MHz +-50Hz	POWER STAND BY POSITION

SWEEP GENERATOR

IF	Adjust for	Adjustment
450KHz	Maximum	IFT204

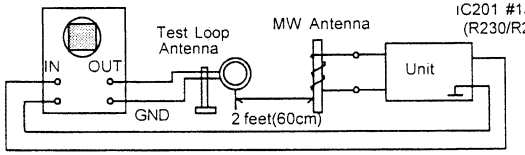


Figure 4 MW IF Adjustment Connection Diagram

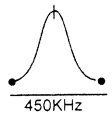


Figure 5 AM IF Curve

STEP	ALIGNMENT FREQ	TEST EQUIPMENT	SIGNAL-IN	SIGNAL-OUT	ADJUST	REMARK
1.	450KHz	(1)AM IF SWEEP GEN. WITH LOOP ANTENNA. (2)ALIGNMENT OSCILLOSCOPE	LET THE MW ANT COIL CLOSE TO MW GEN. ANTENNA	TAKE OUT THE SIGNAL FROM R230 OR R232	ADJUST IFT204 TO GET MAX OUTPUT AT 450KHz	(1)BAND SW. IN MW POSITION (2)VOL.CONTROL AT MIN POSITION (3)TUNE TO HIGH END.

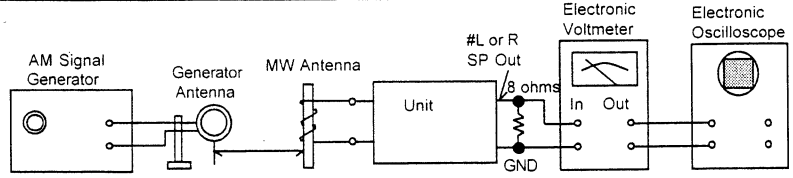


Figure 6 MW RF Adjustment Connection Diagram

2.	530Hz	(1)AM SWEEP GEN. WITH ANT. (2)ALIGNMENT OSCILLOSCOPE (3)DVM	SAME AS STEP 1.	SAME AS STEP 1.	ADJUST IFT203 TO HAVE 1.2V +-0.1V AT C252 TO GND	PRESS BUTTON TO LOW END.

ALIGNMENT

3.	1710KHz	SAME AS STEP 2	SAME AS STEP	SAME AS STEP	ADJUST TC205 HAVE 7.2V +-0.2V AT C252 TO GND	PRESS BUTTON TO HIGH END.
4.	REPEAT STEP 2,3 TO GET THE BEST PERFORMANCE.					
5.	1400KHz	SAME AS STEP 2	SAME AS STEP 1.	SAME AS STEP 1.	ADJUST TC203 TO GET MAX. OUTPUT AT 1400KHz	PRESS BUTTON TO 1400KHz
6.	610KHz	SAME AS STEP 2	SAME AS STEP 1.	SAME AS STEP 1.	ADJUST MW-ANT COIL TO GET MAX. OUTPUT AT 610KHz	PRESS BUTTON TO 610KHz
7.	REPEAT STEP 5,6 TO GET THE BEST PERFORMANCE.					

FM SECTION

SWEEP GENERATOR

IF	Adjust for	Adjustment
10.7MHz	The maxium wave 10.7MHz marker in centre	IFT201 and IFT202

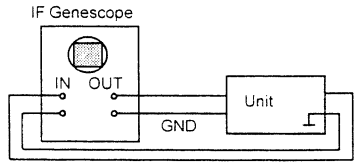


Figure 7 FM IF Adjustment Connection Diagram

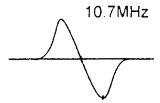


Figure 8 FM "S" Curve

STEP	ALIGNMENT FREQ	TEST EQUIPMENT	SIGNAL-IN	SIGNAL-OUT	ADJUSTMENT	REMARK
1.	10.7MH.z	(1)FM IF SWEEP GENERATOR (2)ALIGNMENT OSCILLOSCOPE	INJECT THE IF SWEEP SIGNAL THROUGH 5pf CAPACITOR TO R207 "	SIGNAL ARE TAKEN OUT FROM R230 OR R232	ADJUST IFT201 AND IFT202 REPEAT TO GET BEST "S"CURVE AT 10.7MHz	(1)BAND SW. IN FM POSITION (2)VOLCONTROL IN MIN.

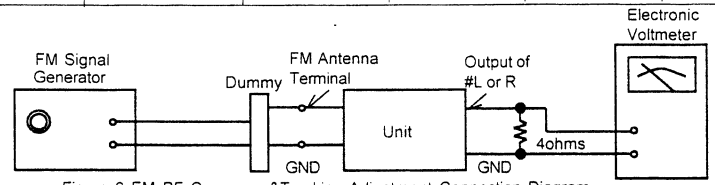


Figure 9 FM RF Coverage &Tracking Adjustment Connection Diagram

2.	107.9MHz	(1)FM RF SWEEP GENERATOR (2)ALIGNMENT OSCILLOSCOPE (3)DVM	NJECT THE RF SIGNAL DIRECTLY TP209 (FM ANTENNA)	SAME AS STEP 1.	ADJUST L201 TO HAVE READING 5.7V +-0.2V AT C252 TO GND	(1)SAMEAS STEP REMARK (2)TUNE TO HIG END

ALIGNMENT

PLL SECTION

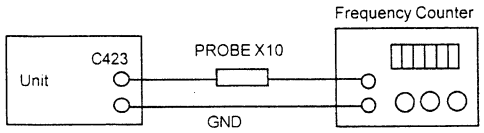


Figure 3 PLL Section Crystal 7.2MHz Adjustment Connection Diagram

STEP	ALIGNMENT FREQ	TEST EQUIPMENT	SIGNAL-IN	SIGNAL-OUT	ADJUST	REMARK
1.	7.2MHz	COUNTER WITH X10 PROBE		C423 TO GND	ADJUST TC401 TO 7.2MHz +-50Hz	POWER STAND BY POSITION

IF	Adjust for	Adjustment
450KHz	Maximum	IFT204

SWEEP GENERATOR

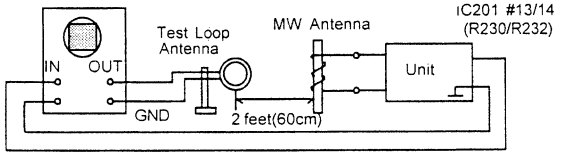


Figure 4 MW IF Adjustment Connection Diagram

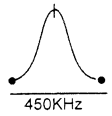


Figure 5 AM IF Curve

STEP	ALIGNMENT FREQ	TEST EQUIPMENT	SIGNAL-IN	SIGNAL-OUT	ADJUST	REMARK
1.	450KHz	(1)AM IF SWEEP GEN. WITH LOOP ANTENNA. (2)ALIGNMENT OSCILLOSCOPE	LET THE MW ANT COIL CLOSE TO MW GEN. ANTENNA	TAKE OUT THE SIGNAL FROM R230 OR R232	ADJUST IFT204 TO GET MAX OUTPUT AT 450KHz	(1)BAND SW. IN MW POSITION (2)VOL.CONTROL AT MIN POSITION (3)TUNE TO HIGH END.

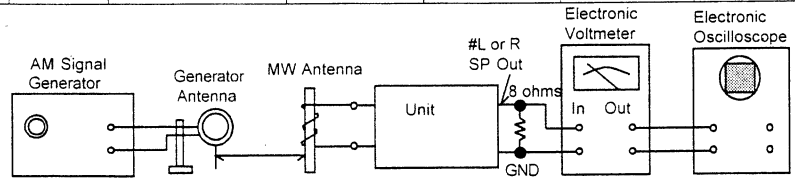


Figure 6 MW RF Adjustment Connection Diagram

2.	530Hz	(1)AM SWEEP GEN. WITH ANT. (2)ALIGNMENT OSCILLOSCOPE (3)DVM	SAME AS STEP 1.	SAME AS STEP 1.	ADJUST IFT203 TO HAVE 1.2V +-0.1V AT C252 TO GND	PRESS BUTTON TO LOW END.

ALIGNMENT

3.	1710KHz	SAME AS STEP 2	SAME AS STEP	SAME AS STEP	ADJUST TC205 HAVE 7.2V +-0.2V AT C252 TO GND	PRESS BUTTON TO HIGH END.
4.	REPEAT STEP 2,3 TO GET THE BEST PERFORMANCE.					
5.	1400KHz	SAME AS STEP 2	SAME AS STEP 1.	SAME AS STEP 1.	ADJUST TC203 TO GET MAX. OUTPUT AT 1400KHz	PRESS BUTTON TO 1400KHz
6.	610KHz	SAME AS STEP 2	SAME AS STEP 1.	SAME AS STEP 1.	ADJUST MW-ANT COIL TO GET MAX. OUTPUT AT 610KHz	PRESS BUTTON TO 610KHz
7.	REPEAT STEP 5.6 TO GET THE BEST PERFORMANCE.					

FM SECTION

IF	Adjust for	Adjustment
10.7MHz	The maxium wave 10.7MHz marker in centre	IFT201 and IFT202

SWEEP GENERATOR

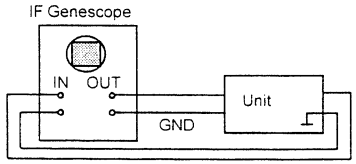


Figure 7 FM IF Adjustment Connection Diagram

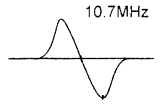


Figure 8 FM "S" Curve

STEP	ALIGNMENT FREQ	TEST EQUIPMENT	SIGNAL-IN	SIGNAL-OUT	ADJUSTMENT	REMARK
1.	10.7MH.z	(1)FM IF SWEEP GENERATOR (2)ALIGNMENT OSCILLOSCOPE	INJECT THE IF SWEEP SIGNAL THROUGH 5pf CAPACITOR TO R207 "	SIGNAL ARE TAKEN OUT FROM R230 OR R232	ADJUST IFT201 AND IFT202 REPEAT TO GET BEST "S"CURVE AT 10.7MHz	(1)BAND SW. IN FM POSITION (2)VOLCONTROL IN MIN.

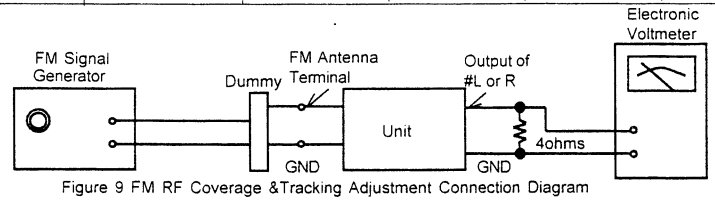
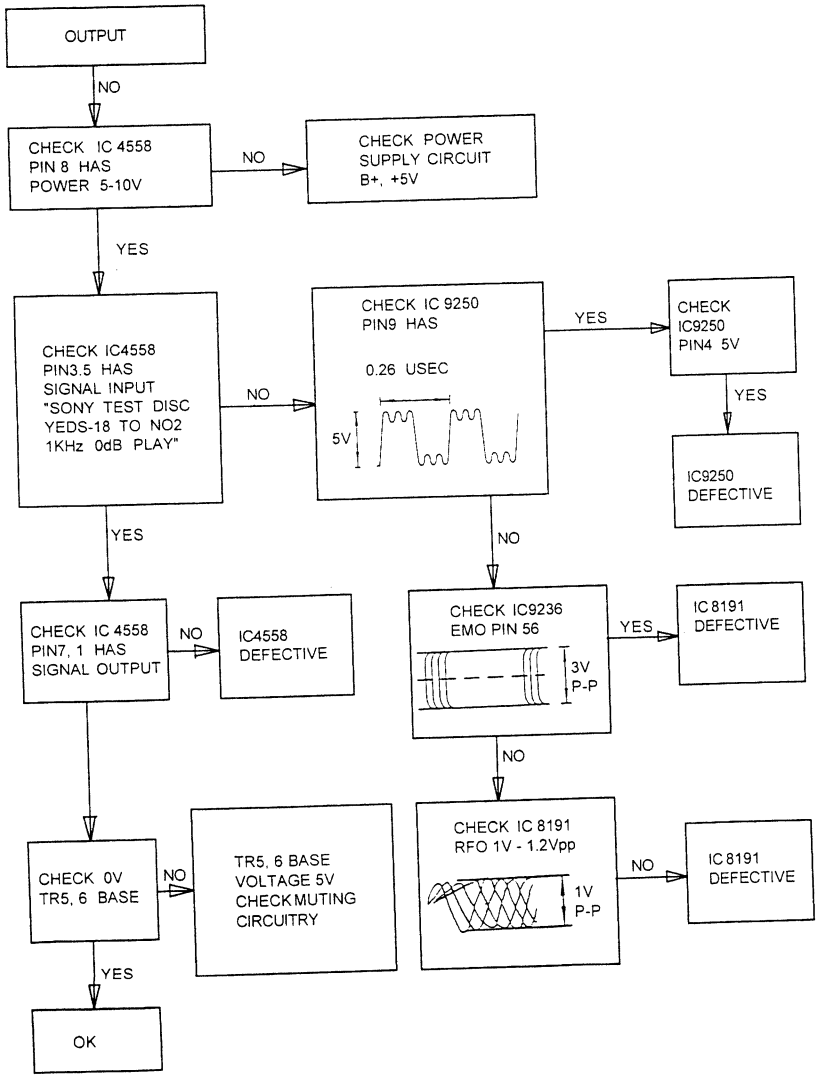


Figure 9 FM RF Coverage &Tracking Adjustment Connection Diagram

2.	107.9MHz	(1)FM RF SWEEP GENERATOR (2)ALIGNMENT OSCILLOSCOPE (3)DVM	NJECT THE RF SIGNAL DIRECTLY TP209 (FM ANTENNA)	SAME AS STEP 1.	ADJUST L201 TO HAVE READING 5.7V +-0.2V AT C252 TO GND	(1)SAMEAS STEP REMARK (2)TUNE TO HIG END

AUDIO CIRCUIT CHECK
(FOR PCB-15)



REMOTE HANDSET

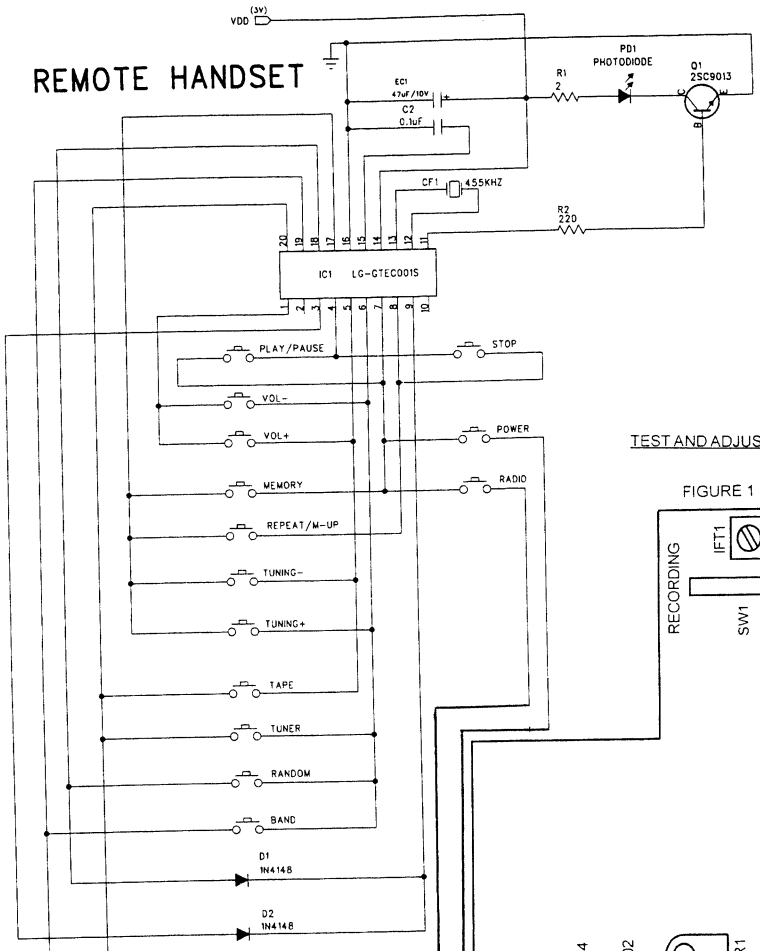
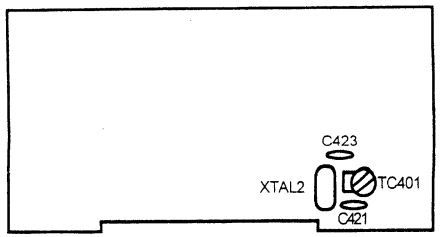
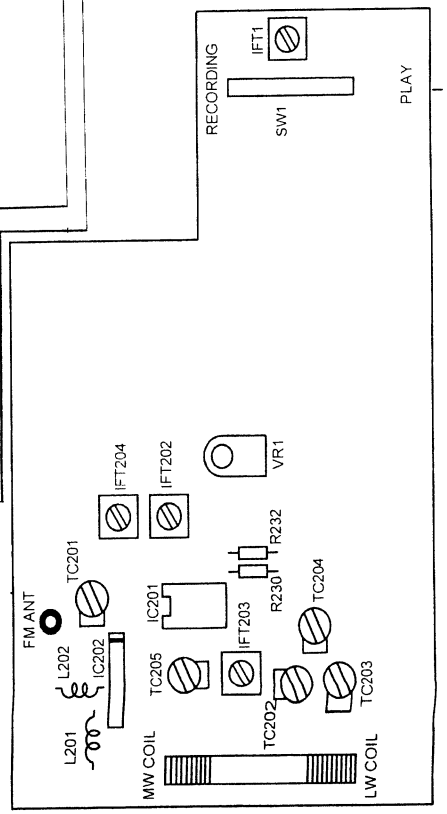


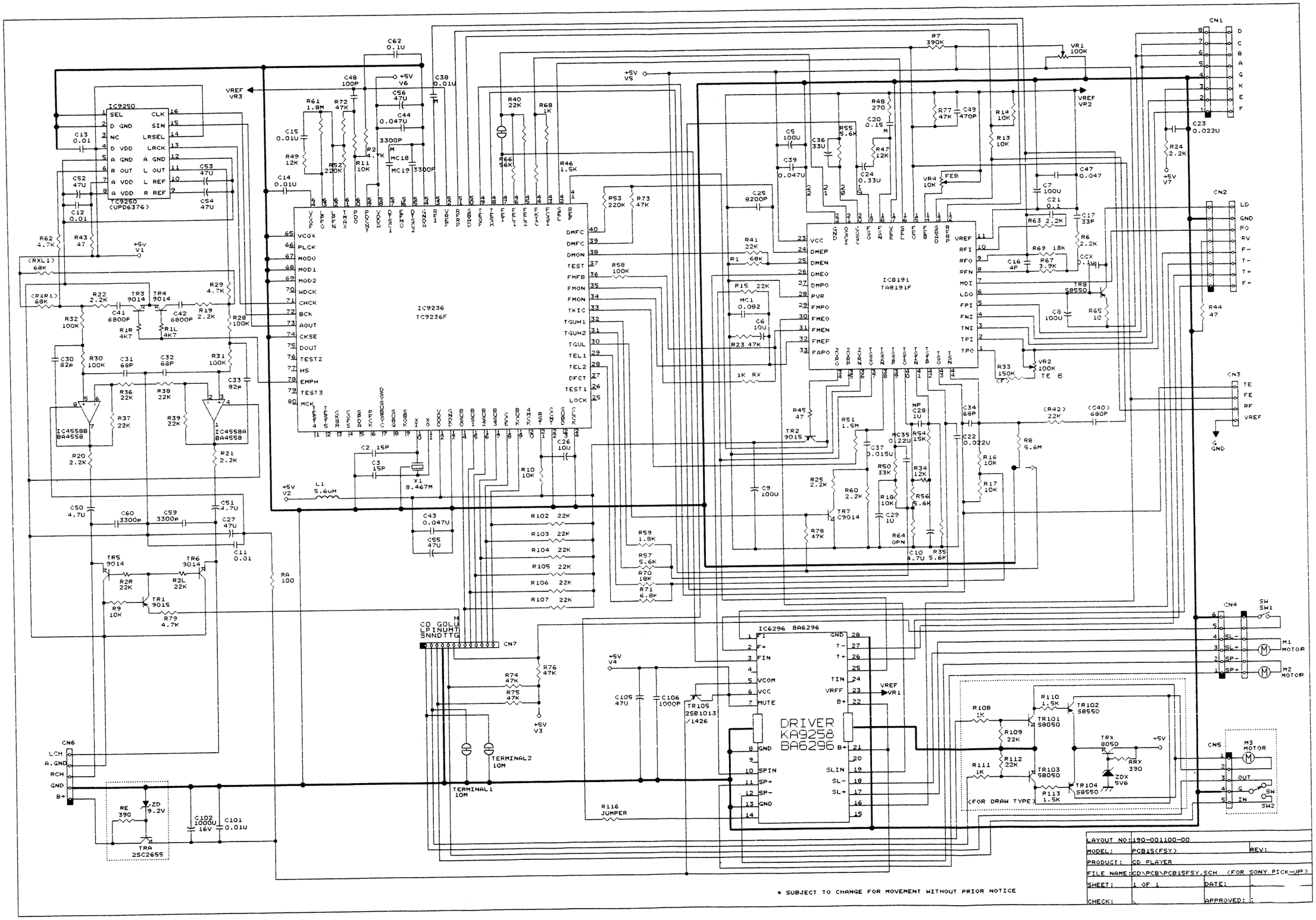
FIGURE 2 PLL BOARD



TEST AND ADJUSTMENT POINTS

FIGURE 1 MAIN BOARD




IC9250
SEL
D GND
NC
D VDD
A GND
R OUT
A VDD
A VDD
CLK
SIN
LRSEL
LRCK
A GND
L OUT
L REF
R REF
TC9250
(UPD6376)
IC9236
IC9236F
VCOX
PLCK
MODO
MOD1
MOD2
WDCK
CHCK
BCK
AOUT
CKSE
DOUT
TEST2
HS
EMPH
TEST3
MCK
DMFC
DMFC
DMON
TEST
FMFB
FMON
TKIC
TGUH1
TGUH2
TGUL
TEL1
TEL2
DFCT
TEST1
LOCK
IC8191
TA8191F
VCC
DMEP
DMEN
DMEO
DMPO
PVR
FMPO
FMEO
FMEN
FMEP
FAPO
VREF
RFI
RFO
RFN
MDI
LDO
FPI
FNI
TNI
TPI
TPO
IC6296 BA6296
F1
F+
FIN
VCOM
VCC
MUTE
GND
SPIN
SP+
SP-
GND
T-
T+
TIN
VREF
B+
SLIN
SL-
SL+
DRIVER
KA9258
BA6296
IC4558B
BA4558
IC4558A
BA4558
CN1
CN2
CN3
CN4
CN5
CN6
CN7
M1 MOTOR
M2 MOTOR
M3 MOTOR
SW SW1
SW SW2
TERMINAL1 10M
TERMINAL2 10M
JUMPER
(FOR DRAW TYPE)
(FOR SONY PICK-UP)
LAYOUT NO: 190-001100-00
MODEL: PCB15(FSY)
REV:
PRODUCT: CD PLAYER
FILE NAME: CD\PCB\PCB15FSY.SCH
SHEET: 1 OF 1
DATE:
CHECK:
APPROVED:
* SUBJECT TO CHANGE FOR MOVEMENT WITHOUT PRIOR NOTICE

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

*R412-417 = 3K3
*D401-D408 = 1N4148
*D411-D419 = IN4148

IC401

INTRO REPEAT RANDOM MEMORY
FM ST TRACK
MW AM MHz
LW FM KHz CH

TC930F_102
MIRCO-COMPUTER
IC1

CN405 TO PANEL 1

TO PANEL 2

CN406

HI-SPEED
B+
JAZZ
ROCK
CLASSIC
HI_SP_MUTE
CONTROL 1

CN404

IR-R1
REMOTE RECEIVER

CN402
TO CD BOARD

CN401
ST-BY LED
VOL DOWN
VOL UP
MUTE
CD SYN REC
SUPPLY GND
POWER CONTROL
F2-
F1+
VDD+ 9V
LAMP
TO MAIN BOARD CN205

D402 D406 D401 D419 D418 D417 D416 D414 D413 D412 D411

R425 1K R432 100K R429 100K

R415 R413 R414 R412 R416 R427 3K3

C406 500p C407 500p C411 500p C412 500p C405 500p C404 500p

R417

CD SYN REC
Q402 A1048
Q403 A1048
STEREO IND. ON/OFF
R403 82K R404 82K
C408 500p
Q401 C2458
C402 0.02
R428 100K
R401 470K

Q404 A1048 DATA TRANSFER
R405 15K R406 15K
Q405 A1048 DATA TRANSFER
D409 1N4148

C424 220u

8050 Q406
POWER ON/OFF
R409 1K
R430 100K R431 100K
C427 0.02 C428 0.02
C426 0.02

FUNCTION SELECT
Q407 C2458
C403 0.02

LAMP1 9V/100mA LAMP2 9V/100mA

R407 560
R418 47K
R422 4.7K
R421 3K3
C425 30pf
R410 10K
1N4148 D425

XTAL1 7.2MHZ
C421 25pfnpo
C423 20pfnpo
TC401 30pf
C422 0.1
C417 220u
L401 1mH

C414 300p
D423 1N4148
C420 330p
C419 330p
CN408 AM FM
TO MAIN BOARD CN202

R419 100K
R408 560
Q408 C2668 IF AMP
C410 0.02
C415 100u
CN403
B2
B1
FM STEREO
VT OUTPUT
IF INPUT
PLL 5V
SIGNAL GND
TO CN201

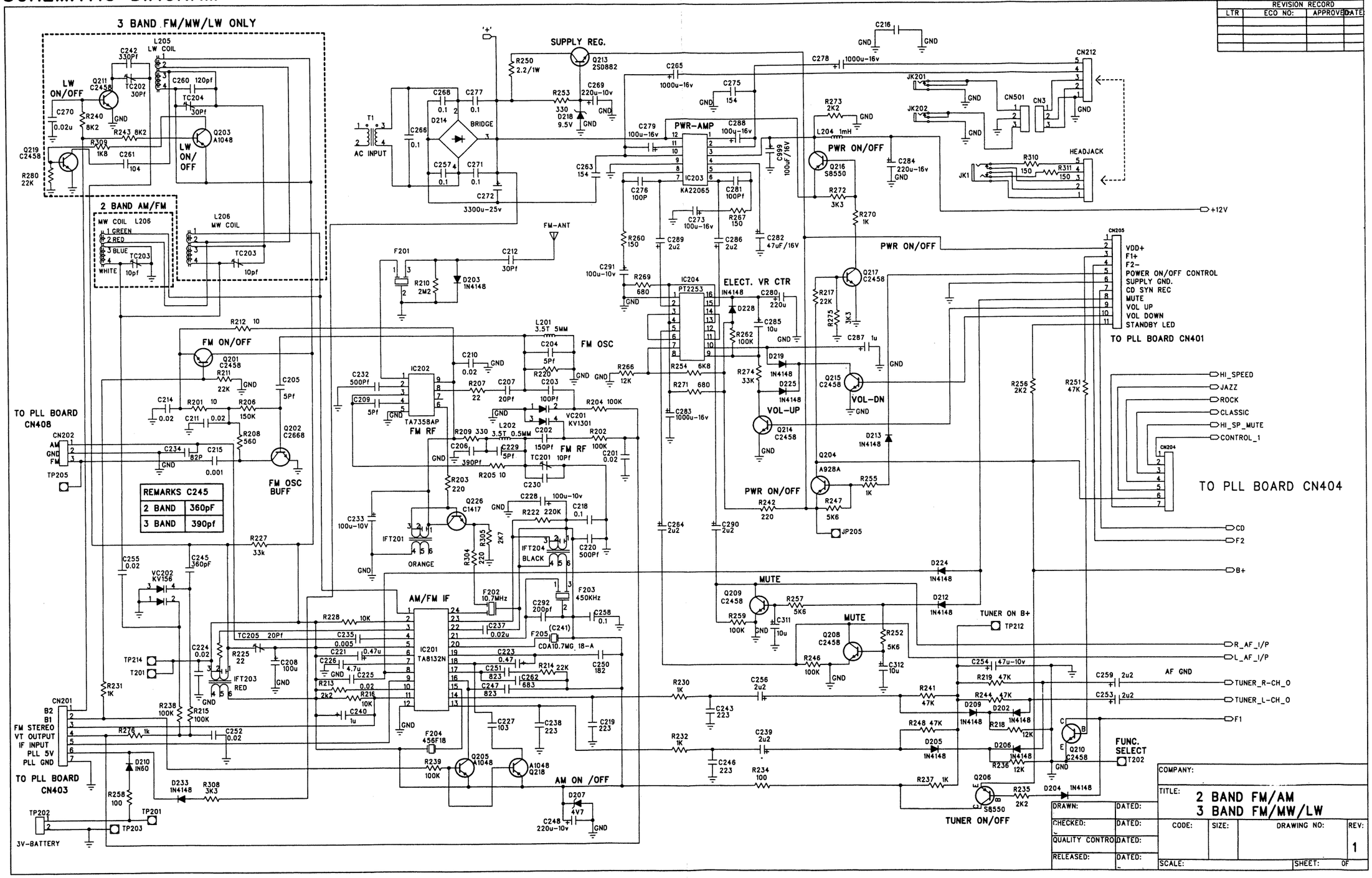
R424 3.9K
C413 0.022
C416 3u3
R423 12K
Q410 C2458
Q409 C2458
LOW PASS FILTER
C409 2u2

R402 470
D410 1N4148
R411 100
C429 100u
D415 5.1V
401 0.02
R426 100
C418 470u

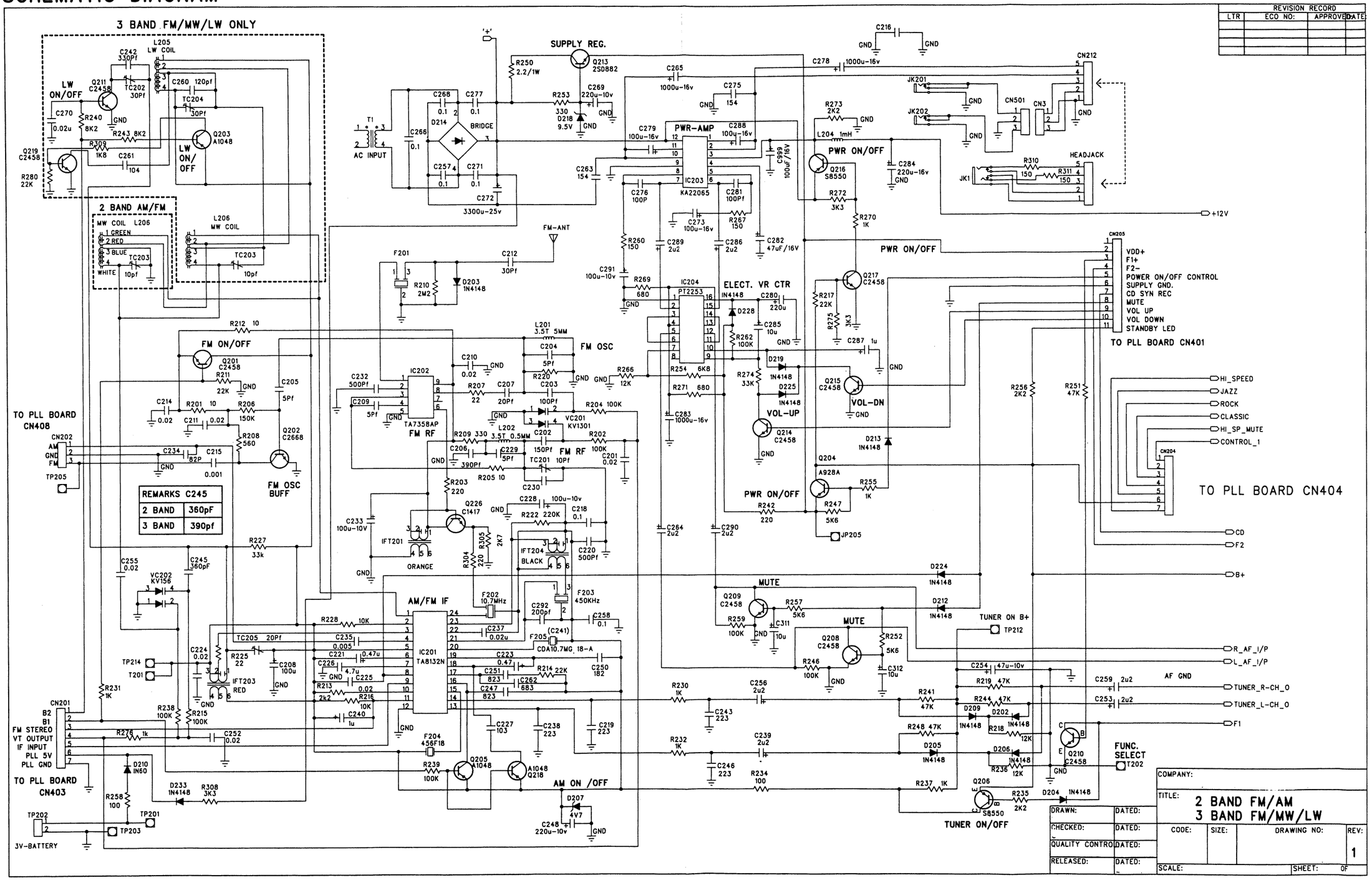
R433 1K
R434 10K
Q411 8050

COMPANY:			
TITLE: PLL BOARD			
DRAWN:	DATED:	CODE: 8318AC03	SIZE:
CHECKED:	DATED:	DRAWING NO:	REV:
QUALITY CONTROL:	DATED:	SCALE:	SHEET:
RELEASED:	DATED:		

SCHEMATIC DIAGRAM



SCHEMATIC DIAGRAM



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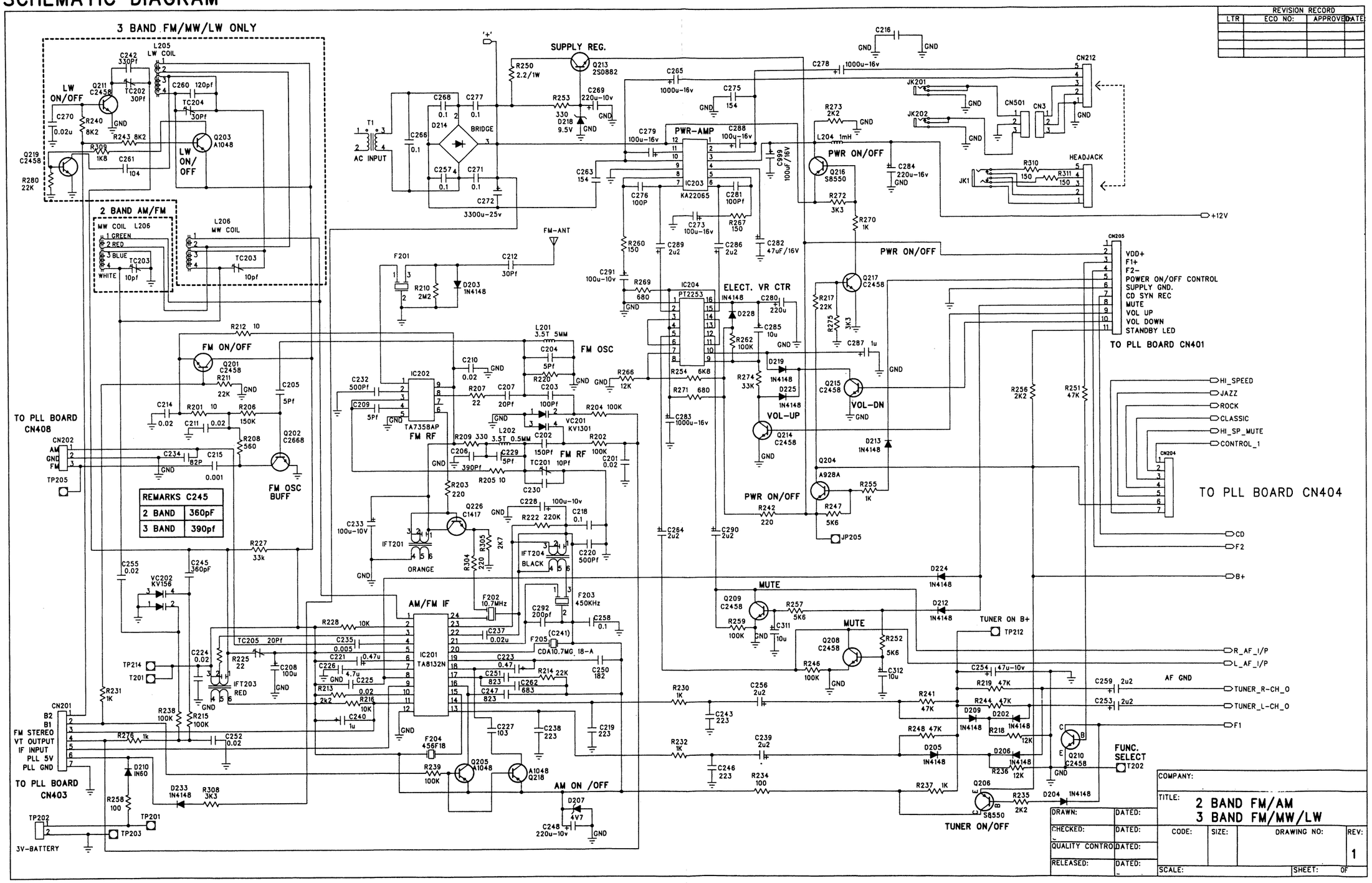
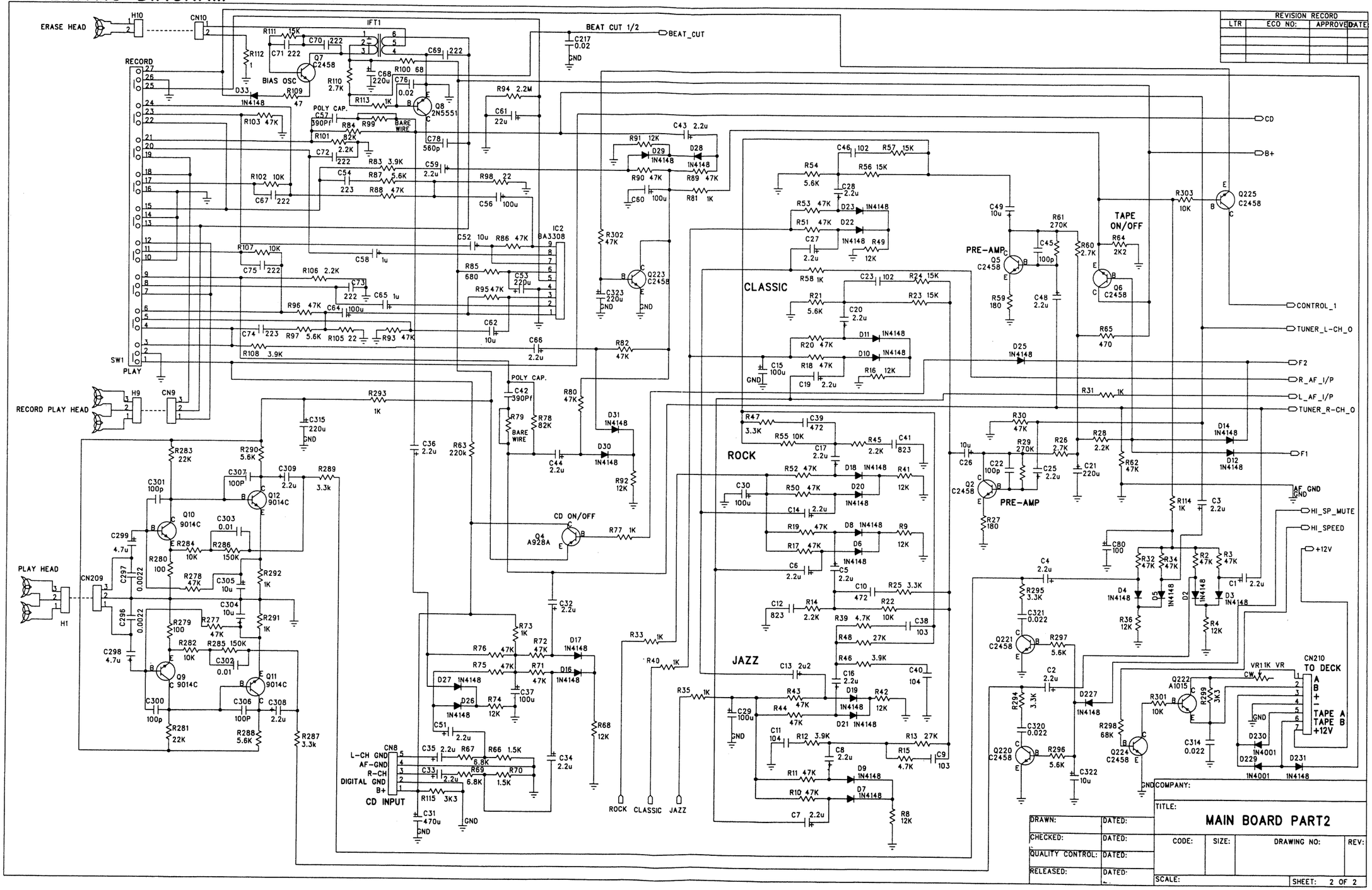
SCHEMATIC DIAGRAM